Trend Study 19A-10-02

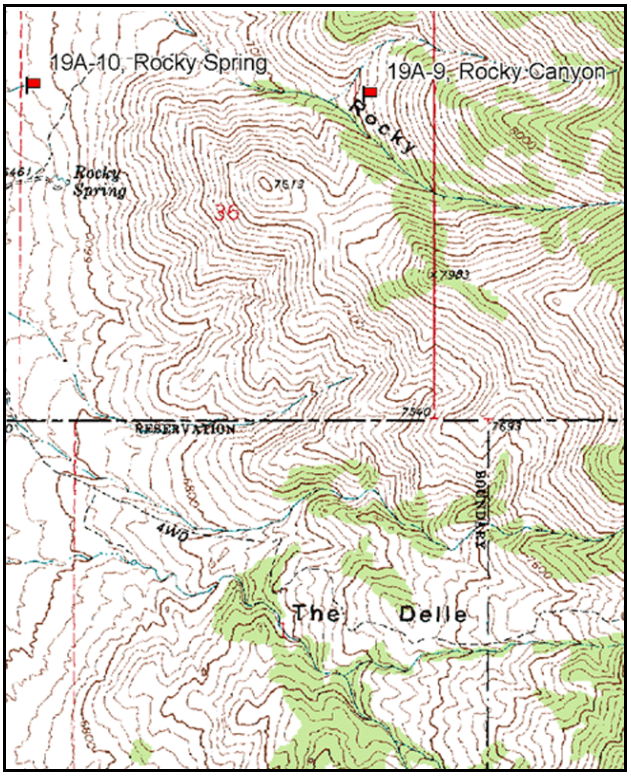
Study site name: Rocky Spring . Vegetation type: Mountain Big Sagebrush .

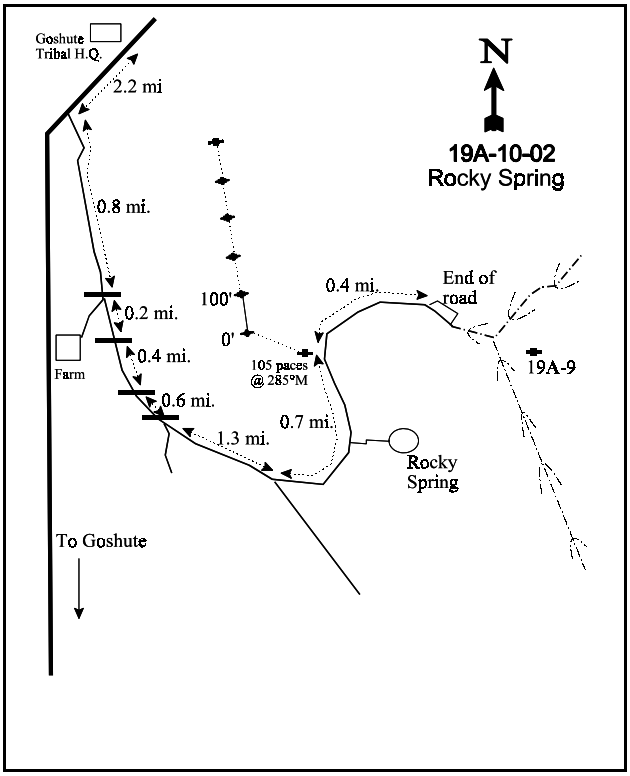
Compass bearing: frequency baseline 326 degrees magnetic.

Frequency belt placement: line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), and line 5 (95ft). Rebar: belt 3 on 1ft.

LOCATION DESCRIPTION

From Ibapah, proceed southeast for ~5.11 miles to a road on the left (southeast) or from the Goshute Tribal Headquarters the road is 2.2 miles further south. Proceed on this road for 0.8 miles to a fence crossing the road and farm. Go through the fence to another fence 0.2 miles further. Go 0.4 miles to another fence with a big gate. Go 0.6 miles to road to the south crossing a gate just before the road. From the intersection, continue on previously travel road for another 1.3 miles to a road going southeast. Continue on main road for 0.7 miles to a witness post on the left side of the road. From the witness post, walk 105 paces at 285 degrees magnetic to the 0-foot stake.





Map Name: Goshute

Diagrammatic Sketch

Township 10S , Range 19W , Section 36

GPS: NAD 27, UTM 12S 4422519 N 248306 E

DISCUSSION

Rocky Spring - Trend Study No. 19A-10

This study was established in 2002 to monitor winter big game use, primarily by elk, on the west side of the Deep Creek Mountains. This site lies on an alluvial fan at the mouth of Rocky Canyon. It samples a mountain big sagebrush flat that receives moderate to heavy deer and elk use during the winter. The transect slopes to southwest at an elevation of 6,500 feet. A pellet group transect read on site in 2002 estimated 33 elk days use/acre (83 edu/ha), 67 deer days use/acre (165 ddu/ha), and 3 cow days use/acre (9 cdu/ha). Most of the deer and elk pellet groups were from winter and spring use.

Soils on the site are very rocky, both on the surface and throughout the profile. Effective rooting depth was estimated at only 7 inches, and soils averaged nearly 70°F at a depth of 8 inches. High soil temperatures are often indicative that a site is prone to invasion by weedy species, particularly winter annuals such as cheatgrass. The soil has a loam texture and is slightly acidic in reactivity (pH of 6.5). Vegetation and litter cover are abundant and adequate to protect the surface for erosion is low. The erosion condition class was determined as stable in 2002.

Mountain big sagebrush dominates the site as it accounted for 97% of the browse cover and 55% of the total vegetation cover in 2002. Density of sagebrush was estimated at 2,840 plants/acre, with most plants being either mature (56%) or decadent (42%). Nearly half of the decadent plants were classified as dying in 2002. Recruitment by young sagebrush was low. Utilization was mostly light to moderate, while 19% of the population was classified as having poor vigor. Over 1,000 dead sagebrush plants were inventoried in 2002. High decadence and low recruitment in sagebrush are often the result of extended drought. In 2002, the dry conditions played a role in the sagebrush populations condition. If reproduction does not improve in the near future, this population will likely decline by the next reading due to the number of decadent/dying in the population. Annual leaders of sagebrush averaged about 1½ inches of growth in 2002. Other browse sampled on the site include broom snakeweed, prickly pear cactus, pediocactus, and Wood's rose.

The understory has poor diversity and contains few forage species. Cheatgrass was the most abundant grass in 2002 as it provided 44% of the grass cover. It occurred in 77% of the sampling quadrats and was well distributed over the site. Further increases in cheatgrass abundance would result in a fire hazard on this site. Perennial grasses are poorly represented with only bluebunch wheatgrass and Sandberg bluegrass being moderately abundant. Both species had a patchy distribution on the site and showed light use in 2002. Silvery lupine was the most abundant forb in 2002. Other forbs sampled include aster, milkweed, bastard toadflax, and skeleton weed.

2002 APPARENT TREND ASSESSMENT

Soils are well protected as vegetation and litter cover are abundant. Erosion is low at the present time and should remain so. The browse component is dominated by mountain big sagebrush. The sagebrush population is mostly mature and decadent with low recruitment. Nearly half of the decadent plants are classified as dying, so a population decline could occur in the future. The herbaceous understory has poor diversity and composition. Cheatgrass is the most abundant species in the understory even with drought in 2002. Trend for both the browse and herbaceous components appears to be moving in a downward direction.

HERBACEOUS TRENDS --
Herd unit 19A, Study no: 10

Type	Species	Nested Frequency '02	Quadrat Frequency '02	Average Cover % '02
G	Agropyron spicatum	83	29	3.09
G	Bromus tectorum (a)	250	77	5.00
G	Poa fendleriana	28	10	.34
G	Poa secunda	162	59	2.84
G	Sitanion hystrix	1	1	.15
G	Vulpia octoflora (a)	3	2	.01
Total for Annual Grasses		253	79	5.01
Total for Perennial Grasses		274	99	6.43
Total for Grasses		527	178	11.45
F	Asclepias spp.	8	2	.15
F	Aster spp.	21	7	.54
F	Comandra pallida	18	8	.29
F	Eriogonum brevicaule	3	1	.00
F	Lupinus argenteus	59	25	2.92
F	Lygodesmia spp.	20	7	.72
Total for Annual Forbs		0	0	0
Total for Perennial Forbs		129	50	4.64
Total for Forbs		129	50	4.64

BROWSE TRENDS --
Herd unit 19A, Study no: 10

Type	Species	Strip Frequency '02	Average Cover % '02
B	Artemisia nova	3	-
B	Artemisia tridentata vaseyana	75	20.21
B	Cercocarpus montanus	1	-
B	Gutierrezia sarothrae	14	.51
B	Juniperus osteosperma	1	-
B	Leptodactylon pungens	1	-
B	Opuntia spp.	12	.07
B	Pediocactus simpsonii	2	.06
B	Pinus monophylla	3	-
B	Rosa woodsii	4	.06
Total for Browse		116	20.92

CANOPY COVER -- LINE INTERCEPT
Herd unit 19A, Study no: 10

Species	Percent Cover '02
Artemisia nova	1.00
Artemisia tridentata vaseyana	18.58
Gutierrezia sarothrae	.25
Pinus monophylla	.50
Rosa woodsii	.17

Browse Annual Leader Growth
Herd unit 19A , Study no: 10

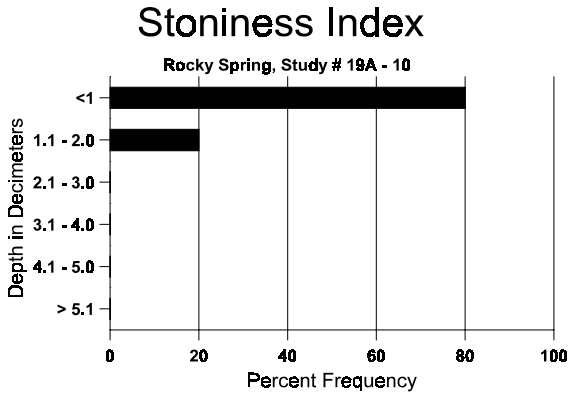
Species	Average leader growth (in) '02
Artemisia tridentata vaseyana	1.6

BASIC COVER --
Herd unit 19A, Study no: 10

Cover Type	Nested Frequency '02	Average Cover % '02
Vegetation	378	34.56
Rock	277	16.34
Pavement	189	2.91
Litter	454	52.09
Cryptogams	43	.35
Bare Ground	200	10.96

SOIL ANALYSIS DATA --
Herd Unit 19A, Study no: 10, Rocky Spring

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
7.0	69.0 (8.3)	6.5	45.3	36.7	18.0	4.6	20.4	233.6	0.8



PELLET GROUP FREQUENCY --
Herd unit 19A, Study no: 10

Type	Quadrat Frequency '02	Pellet Transect	
		Pellet Groups per Acre '02	Days Use per Acre (ha) '02
Rabbit	6	-	-
Elk	26	435	33 (83)
Deer	15	870	67 (165)
Cattle	2	44	4 (9)

BROWSE CHARACTERISTICS --
Herd unit 19A, Study no: 10

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Artemisia nova																		
M	02	5	-	-	-	-	-	-	-	-	5	-	-	-	100	-	-	5
D	02	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing '02		Moderate Use 00%		Heavy Use 00%		Poor Vigor 00%									%Change			
Total Plants/Acre (excluding Dead & Seedlings)													'02		120	Dec:		17%
Artemisia tridentata vaseyana																		
S	02	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
Y	02	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
M	02	64	11	4	1	-	-	-	-	-	79	1	-	-	1600	22	38	80
D	02	43	14	-	1	1	-	-	-	-	32	-	-	27	1180			59
X	02	-	-	-	-	-	-	-	-	-	-	-	-	-	1040			52
% Plants Showing '02		Moderate Use 18%		Heavy Use 03%		Poor Vigor 19%									%Change			
Total Plants/Acre (excluding Dead & Seedlings)													'02		2840	Dec:		42%
Cercocarpus montanus																		
M	02	-	1	-	-	-	-	-	-	-	1	-	-	-	20	-	-	1
% Plants Showing '02		Moderate Use 100%		Heavy Use 00%		Poor Vigor 00%									%Change			
Total Plants/Acre (excluding Dead & Seedlings)													'02		20	Dec:		-
Gutierrezia sarothrae																		
M	02	23	5	-	-	-	-	-	-	-	28	-	-	-	560	9	14	28
D	02	4	-	-	-	-	-	-	-	-	2	-	-	2	80			4
X	02	-	-	-	-	-	-	-	-	-	-	-	-	-	40			2
% Plants Showing '02		Moderate Use 16%		Heavy Use 00%		Poor Vigor 06%									%Change			
Total Plants/Acre (excluding Dead & Seedlings)													'02		640	Dec:		13%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Juniperus osteosperma																		
Y	02	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing '02			Moderate Use 00%			Heavy Use 00%			Poor Vigor 00%						%Change			
Total Plants/Acre (excluding Dead & Seedlings)													'02		20	Dec:		-
Leptodactylon pungens																		
M	02	6	-	-	-	-	-	-	-	-	6	-	-	-	120	7	11	6
% Plants Showing '02			Moderate Use 00%			Heavy Use 00%			Poor Vigor 00%						%Change			
Total Plants/Acre (excluding Dead & Seedlings)													'02		120	Dec:		-
Opuntia spp.																		
Y	02	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
M	02	8	-	-	3	-	-	-	-	-	11	-	-	-	220	5	9	11
% Plants Showing '02			Moderate Use 00%			Heavy Use 00%			Poor Vigor 00%						%Change			
Total Plants/Acre (excluding Dead & Seedlings)													'02		260	Dec:		-
Pediocactus simpsonii																		
M	02	2	-	-	-	-	-	-	-	-	2	-	-	-	40	2	4	2
% Plants Showing '02			Moderate Use 00%			Heavy Use 00%			Poor Vigor 00%						%Change			
Total Plants/Acre (excluding Dead & Seedlings)													'02		40	Dec:		-
Pinus monophylla																		
Y	02	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
% Plants Showing '02			Moderate Use 00%			Heavy Use 00%			Poor Vigor 00%						%Change			
Total Plants/Acre (excluding Dead & Seedlings)													'02		60	Dec:		-
Rosa woodsii																		
M	02	32	-	-	-	-	-	-	-	-	32	-	-	-	640	10	12	32
% Plants Showing '02			Moderate Use 00%			Heavy Use 00%			Poor Vigor 00%						%Change			
Total Plants/Acre (excluding Dead & Seedlings)													'02		640	Dec:		-